COMPARISON OF DEGREES AWARDED, LENGTH OF TIME TO GRADUATION, AND GRADE POINT AVERAGE FOR TRADITIONAL- AND NONTRADITIONAL-AGE STUDENTS IN A COMMUNITY COLLEGE

By

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Abstract of Dissertation Presented to the Graduate School
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In this study selected differences between traditional-age and nontraditional-age students were compared in reference to degrees awarded, length of time to graduation, and grade point average (GPA).

The sample included students at a Florida community college who graduated in the spring of 1994 with Associate of Arts (AA) degrees, Associate of Science (AS) degrees, or Certificates. The sample consisted of all of the students 40 years of age and over and a random sample of those under 40. Age 40 was the base age for defining nontraditional-age community college students in this study to capture the returning "Baby Boom" students.

The data collection methods for the study were both quantitative and qualitative. In the quantitative section, data were collected from 433 students. In the qualitative section, semistructured interviews were held with 12 of the nontraditional-age graduates.

In the first section, analysis of the data produced the following findings:

1. Degree selection was determined by the students' age grouping and their gender. The majority of traditional-age males received AA degrees that prepare students for transfer to a four-year institution of higher education. A majority of all other gender groups, traditional-age females, and both male and female nontraditional-age students received terminal degrees--the AS degree and Certificate, which prepare students for careers.

2. Length of time to complete the degree was not determined by whether the student was traditional- or nontraditional-age but by the student's race and gender. Black males completed their degrees in a longer period of time, and black females completed their degrees in a shorter period of time than any other subgroup in the study.

3. The GPA was not determined by whether the student was traditional-age or nontraditional-age but by race and gender. White students had higher GPAs than black students, and female students had higher GPAs than male students.

In the second section, fear of failure, financial concerns, and family and work responsibilities were concerns reported by the nontraditional-age students. The study concludes with recommendations that community colleges develop policies to enhance the learning needs of all segments of the community college population.

CHAPTER 1
INTRODUCTION

The composition of student populations has changed dramatically within the past 20 years, and powerful currents of further change are building well into the coming century. A "Baby Boom" generation that unexpectedly eschewed higher education has begun to return to school as it ages and seeks to stay competitive in evolving and tightening job markets. In the 1970s, 75% of the students who enrolled in higher education institutions entered college directly from high school. Thus, postsecondary students under the age of 25 were defined as traditional-age students. The majority of these traditional-age students were white residential students, attending college on a full-time basis (Metzner & Bean, 1987).

In the 1970s, the community college student population began to shift from what was thought to be traditional-age students who entered college directly from high school to those who entered at a later date. In fact, by 1993, one-half of community college students were over the age of 28 (Witt, Wattenbarger, Gollattscheck, & Suppiger, 1994). For the past few decades, researchers have defined nontraditional-age students as those over the age of 25 (Metzner & Bean, 1987; Neumann, 1985; Tinto, 1987). With the discovery that at least one-half of students in community colleges are over the age of 28, it makes sense to advance the base age of nontraditional-age students when researching students in community colleges.

Evidence indicates that an aging population will accelerate the movement of older students into higher education (Carbone, 1982). "The growth of older student numbers will have far-reaching effects on higher education" (Apps, 1988, p. 36). von Mering (1992) pointed out that this population growth is not a temporary event. Already in the United States there are more persons older than 65 than younger than 25 (von Mering, 1992), and it is predicted that by the year 2005 over half the U.S. population will be over the age of 50 (Moody, 1986). This demographic shift should alert community college administrators and teachers that to better serve a graying population, they need to study institutional patterns that facilitate education for the nontraditional-age student.

Brooks-Leonard (1991) recommended studying two-year college students over age 40. Using the age of 40 as a marker of nontraditional-age students catches those who stopped or dropped out during the tumultuous 1960s and early 1970s as they reenter higher education. Many who return after age 40 look to the community college to help them retain their job fitness. Therefore, the defining age for this study of nontraditional-age students in community colleges is 40 and older.

Background

History of Nontraditional-Age Students

Students over the traditional college entry age of 17 first appeared in large numbers in traditional institutions of higher education during the period immediately following World War II. They were armed service veterans attending college on grants from new legislation known as the G.I. Bill. The bill gave veterans money toward their living and college expenses while they attended higher education institutions. Many returning soldiers completed their degrees, began their families, and moved into the work force, leaving behind them, once again, the more recent high school graduates in colleges and universities (Witt et al., 1994).

When the progeny of the World War II veterans, called the "Baby Boom" generation, graduated from high school and entered colleges and universities in the late 1960s and early 1970s, they found new faculty and instructional space awaiting them. "In response to these rapidly increasing student numbers, higher education went on a building binge" (Apps, 1988, p. 33). After attentive preparation for their arrival, more than 50% of the "Baby Boom" generation who entered colleges and universities directly from high school soon dropped out. During the tumultuous 1960s and 1970s, the student manifesto to "drop out" of school and "drop in" to life, along with generalized social turmoil, led to a large-scale student exodus from college (Tinto, 1987). When great numbers of students unforeseeably dropped out of school, many higher education institutions suffered "economic distress and widespread system disruption" (Tinto, 1987, p. 104) as the expanded programs floundered without students.

Hoping to reverse the thinning student ranks and consequent economic havoc in their institutions, higher education researchers began to study "dropouts." Several undergraduate institutions in the United States identified institutional factors that may have contributed to the exodus from higher education. Acquiescing to student demands, many colleges and universities altered curricula, dropped graduation policies, and agreed to give only pass/fail grades. Other higher education institutions, rather than seeking ways to humor the angry student body, turned their attention to practical solutions for the problem of vacant classrooms.

Almost universally, concerned college administrators developed alternative plans to maintain institutional enrollment levels. One such plan invited older students who had "dropped out" to return to college and register for classes. In this way, older students began filling the seats left behind by traditional-age students. The "Return to College" concept struck the right chord as large numbers of nontraditional-age students, especially women who had left school to raise children, began to register for college courses.

Community College Students

Community colleges have long kept an open door that welcomed any student wanting to attend. From the 1950s until the 1980s, community colleges grew in numbers and student population. By the mid-1980s, approximately 50% of all undergraduate students were attending community colleges (Deegan & Tillery, 1985). Community college students now make up more than 55% of first-time students, and they tend to be older than four-year college or university students (Voorhees, 1987).

More than 60% of college students of the 1990s are part-time students. Warren (1985) pointed out that with the increasing numbers of older community college students, a greater proportion will enroll on a part-time basis, long after leaving high school, and will take far longer than the prescribed two or four years for a degree. These nontraditional-age students, then, have developed a new timeline for college graduation.

Adult Learners

While some community colleges have moved toward recognizing that nontraditional-age students are not the same creatures as young adult undergraduates, community colleges have, in general, not seemed to recognize the changing patterns of their nontraditional-age learners. Despite the part-time attendance of many of these nontraditional-age students, most researchers in higher education institutions have continued to study full time, continuously enrolled students who entered colleges and universities directly from high school (Tinto, 1987). As noted by Kasworm (1990), "The lack of research on the effects of age in the persistence of nontraditional-age students in a community college represents a substantial gap in the literature" (p. 366).

Nontraditional-age students are adult learners whose diversity and rich life experience make their needs different from those students approaching adulthood. Young students are learning to prepare themselves for future life experiences, while most older students have already been launched into life and now want to learn skills that will allow them to use their experiences to assist them in changing their futures.

Because many older workers are experiencing deskilling through rapidly changing markets and technology, community colleges would benefit from examining the educational goals of their nontraditional-age students.

Purpose of the Study

The purpose of the study was to compare degrees awarded, length of time to graduation, and grade point average (GPA) for traditional-age and nontraditional-age students in a community college.

Limitations of the Study

The following limitations apply to this study:

1. The data were collected only from those students who graduated from Santa Fe Community College. Not included were data relating to students who may have dropped out, stopped out, transferred, moved to another state, or taken courses with no intent to graduate.

2. The data were collected from only one community college. The results may not, therefore, be common to students in other regions of the United States or for other areas in Florida.

3. The limited number of personal interviews may not reflect the experiences of other students of Florida community colleges.

4. The archival data were limited to those entered into the Student Data Base by the Institutional Review and Planning Department of Santa Fe Community College.

5. The archival data used for the study did not reveal the personal perspectives of the faculty.

Definition of Terms

Throughout this study various terms were used that formed a basis for the study. Precise definitions of selected terms used in this study provide consistent meanings for these terms throughout the study.

Academic integration refers to a student's academic success in an institution of higher education.

Adult learning refers to the process of gaining knowledge, understanding, or skill by study, instruction, or experience by adults.

Age refers to the age of the students at the time of graduation.

Degree refers to one of three community college graduation awards: the Associate of Arts (AA) degree, which leads to possible transfer to a four-year institution of higher education; the Associate of Science (AS) degree, sometimes labeled a terminal choice or degree; and the Certificate, which can ensure competency in a selected occupation.

Deskilling refers to the change in knowledge in a field or occupation that outdates previously studied information.

A dropout refers to any student who has left an institution of higher education by choice, without completing a program of study.

Exogenous means any factor outside of demographic information.

An institution of higher education refers to any accredited two- or four-year institution of higher education, whether public or private.

A nontraditional-age student refers to any student age 40 or older for this study of community college students.

A part-time student is any student who carries fewer than 12 hours of course work per term.

Persistence means eventual graduation from a higher education institution.

Race refers to white and black students.

Social integration refers to the degree of informal interaction with students or faculty members.

A stopout refers to any student in a traditional higher educational institution who has left but later returns to the same or a different higher educational setting.

A timeline refers to the length of time used by a student from entrance to graduation.

A traditional-age student refers to any community college student under the age of 40.

Transformational learning refers to the altered view generated by critical reflection of life experience.

Significance of the Study

The postsecondary school population in the United States is aging, and these nontraditional-age students have the highest level of education of any prior generation. Aslanian and Brickell (1980) reported a significant correlation between the amount of education and the desire for continuing education. It follows, then, that nontraditional-age learners will likely persist in their demands for continuing education as they face deskilling and the need to change during their life course.

Until distance education becomes commonplace, learning in a higher-education setting seems predictable for older learners. Even when interactive computer learning becomes widespread, institutions that anticipate the educational needs of older learners will become their institutions of choice. It makes economic sense to examine the needs and plan programs that will accommodate older students.

While hundreds of studies have been published involving student "dropouts," relatively few have examined either choice of degree or timeline for graduation of the over-40-year-old student in a community college setting. As more nontraditional-age students return to a higher education setting, especially community colleges, educators and administrators need to have information about these students. This study addressed the need that Kasworm (1990) noted, with regard to persistence of nontraditional-age students, by furnishing data on such students' academic performance, degrees they received, and time taken to acquire the degrees. This study adds to the base of knowledge that exists concerning the time frame and persistence of nontraditional-age students by specifying age 40 as the beginning of the nontraditional-age community college students. In addition, interviews in this study add to understanding exogenous factors that influence older students' course of study.

Given the broad and profound upheavals occurring in the workplace globally, and the certainty of an aging population, this study contributes to a knowledge base about nontraditional-age students that planners will increasingly consult. Knowledge of the degrees these students are awarded and the length of time they have taken to acquire these degrees would contribute to policy planning for community colleges of the future.

Data Collection Methods

The data were collected using two methods in order to examine the possible influences of background and exogenous variables on graduation. The demographic data were collected from two sources: 72 nontraditional-age students and a random sample of 371 traditional-age students were found in the master student file of May 1994 graduates of Santa Fe Community College. Computer procedures were used to test for main and interaction effects between the variables in the seven null hypotheses.

In the second section, semistructured interviews were held with 12 of the 72 nontraditional-age students. The interviews were conducted to explore the influence of exogenous factors relating to persistence, GPA, and degree choices of nontraditional-age students in a community college. The degree choices were the Associate of Arts (AA) degree, which leads to possible transfer to a four-year institution of higher education; the Associate of Science (AS) degree, sometimes labeled a terminal degree; and the Certificate, which may ensure competency in a selected occupation.

Scope of the Study

The study contained two data collection methods: quantitative and qualitative. The quantitative section was limited to data relating to students' degrees, age, gender, and race. The qualitative section interviews were limited to 12 nontraditional-age students from the spring 1994 graduating class.

Overview of Chapters 2 through 5

Chapter 2 contains a review of literature relevant to the following subjects: (a) persistence and degree selection of nontraditional-age students in a community college setting, (b) minority students, (c) adult learning theories, and (d) the influence of exogenous factors on persistence of nontraditional-age students in a community college setting. Analysis methods and explanation of the procedures are given in Chapter 3. Results and discussion follow the presentation of data in Chapter 4. Conclusions, implications, and recommendations for further study appear in Chapter 5.

CHAPTER 2
LITERATURE REVIEW

This chapter includes a literature review of studies relating to adult students in higher education settings. Subareas explored included nontraditional-age students, persistence in community colleges, community college students, length of time for degree completion, minority students in community colleges, GPA, gender, and adult learning theories. The literature included those studies that related to length of time for degree completion; degree awarded; and GPA by age, ethnicity, and gender.

Scope of the Literature Review

The scope of the review was literature published between 1975 and 1995. This time period was selected because research on student "dropouts" began in the mid-1970s, following the student protests in higher-education institutions. The reviews were limited to those studies cited frequently by researchers in these fields.

Introduction

Following the multitude of studies of student dropouts (Pascarella, Smart, & Ethington, 1986), researchers turned their attention to factors that may predict student persistence. Tinto (1975), Bean and Metzner (1985), Nora (1987), Voorhees (1987), and Terenzini and Pascarella (1991) are perhaps the most recognized researchers of student persistence in higher education. The theories and findings of these and other researchers are reported in the following section.

Background

Perhaps the most widely recognized model of college withdrawal is Tinto's Theoretical Model of College Withdrawal (1975), which combined Spady's (cited in Tinto, 1975) Empirical Model of Undergraduate Student Dropouts with Durkheim's Theory of Isolation (cited in Tinto, 1987). Tinto (1982) described his model as "designed to highlight in the clearest explanatory terms specific types of relationship between individuals and institutions that may account for particular types of dropout behavior" (p. 689). He found that the integration of a student into the college social and academic environment was "significantly related to a student's persistence or continuance in college" (Tinto, 1975, p. 96). Tinto's model contained three systems: (a) the student background characteristics, (b) the social system within the college, and (c) the academic system of the college. Tinto's model was based on the social and academic integration of full-time students living in a four-year institution of higher education.

To determine if persistence could be predicted for students in a commuter setting, Pascarella, Duby, and Iverson (1983) used Tinto's model to study full-time students in a four-year nonresidential institution of higher education, collecting data at three points during the first year in college. Pascarella et al. found that social integration, the engine of the Tinto model, failed to influence persistence of full-time nonresidential students in a four-year commuter institution of higher education.

Dropouts in Community Colleges

As a result of this finding in a four-year commuter institution of higher education, it could be theorized that social integration might also have a negative influence on persistence for commuter students attending two-year institutions. In an article titled "Limits of Theory and Practice in Student Attrition," Tinto (1982) had expressed doubts that his model might not be sensitive to two-year institutions. Metzner and Bean (1987) confirmed this view when they reported that social integration is usually unrelated to persistence in two-year colleges.

Voorhees (1987), intending to explore persistence in a commuter community college, studied 369 new and continuing students in a suburban commuter community college at two points in a one-year period. He classified nonpersisters as those who did not return during either of the next two terms. He used log-linear modeling to test the influences on persistence. Examining two factors at a time and testing four separate models, he found that academic integration, a factor Tinto (1975) had identified as strongly influencing four-year college persistence, failed to have a significant relationship with the persistence of community college students he was studying.

Thus, according to the findings of Bean, Metzner, and Voorhees, neither social integration nor academic integration appeared to have much impact on the persistence of community college students.

Nontraditional-Age Students

In their study of commuter students, Bean and Metzner (1985) defined the nontraditional-age student as older than 24, living off-campus (e.g., is a commuter), or a part-time student. They suggested that most older students seemed to take their college courses more seriously with more intention of completing their educational goals in community colleges. They were "mainly concerned with their institution's academic offerings, did not live in a college residence, developed self-control and values typically identified with maturity, and were less likely to socialize on the campus" (p. 488).

Solomon and Gordon (1981) specified several characteristics that set nontraditional-age students apart from traditional-age students: They live off-campus, frequently attend part-time, and tend to work off campus rather than on campus. "They seldom become members of campus associations, do not typically participate in extracurricular activities, such as athletics or student government, and have infrequent contact with faculty members" (p. 95). These characteristics point out that nontraditional-age students are not only older but they also have additional decades of life and educational experiences that give them a different perspective on their college experiences.

Several authors suggested that many adult students enter college to remedy previous disadvantages or to get ahead in their careers (Solomon & Gordon, 1981). Neumann (1985) suggested that the greater maturity and work experience of nontraditional-age students helped them view a college education as a way to gain better opportunities in life--a kind of second chance.

Cleveland-Innes (1994), who researched nontraditional-age students, suggested that nontraditional-age students whose life circumstances are more varied than traditional-age students perform as well or better than traditional-age students. They are in a life stage different from traditional-age students and face life transitions that often trigger the desire to gain more education (Aslanian & Brickell, 1980).

Hughes (1983) described nontraditional-age student characteristics to include the following: "(1) responsible for self, frequently responsible for others, (2) fulfills several roles in society, such as worker, voter, parent, spouse, (3) perceives education as only one of several competing or conflicting problems" (p. 53). Preston (1976) found that adult students spend more time studying than traditional-age students, although Bean and Metzner (1985) found no research that related persistence with amount of study time for nontraditional-age students. Generally speaking, the numbers of older learners increase yearly in the United States higher educational system. Yet, studies of older learners in higher education have been few. In their 1985 study of commuter students, for instance, Bean and Metzner found only five studies that gave separate analyses for the older student.

Persistence

Definition. Persistence has diverse meanings. Researchers, including Neumann (1985), Pantages and Creedon (1978), Bean and Metzner (1985), and Tinto (1987), described degree completion as evidence of persistence, no matter how long it took. These researchers suggested that dropouts often are merely stopouts who eventually complete their education. Other researchers, such as Voorhees (1987), identified persistence as attending a community college from one semester to another. For this study, persistence means degree completion or graduation.

Age and persistence. Brooks-Leonard (1991) found that the older the age, the less likely was graduation. In a more recent study of community college students, Feldman (1993) reported that age was a predictor of persistence. The difference in outcomes may have resulted from different research designs. While both researchers used a combination of chi-square analyses and one-way ANOVAs to test for significant relationships with the dependent variables, they used different methods to determine which factors were significantly related when combined. Brooks-Leonard used two-way ANOVAs to identify the interaction effects between those demographic and academic variables that she determined to have significant relationships with retention; Feldman followed up with a logistic regression to determine which factors were significantly related when combined.

GPA and persistence. Researchers have reached varying conclusions concerning the effect of GPA on persistence. Costa (1984) contended that the first-semester grade point average (GPA) was strongly related to persistence of nontraditional-age students in a community college. Bean and Metzner (1985), on the other hand, reported that most researchers indicate no relationships between GPA and persistence of older part-time commuter students.

Community College Students

Many critics have pointed out that community colleges act as the safety valves for four-year institutions of higher education. "By admitting marginal students, they permit state universities to be more selective" (Neumann, 1985, p. 27). Neumann suggested that critics described the tactics of community college administrators as diversionary: counseling working-class students away from four-year colleges into mid-level technical occupations, thus reducing the probability of their obtaining bachelor's degrees.

Since researchers such as Neumann (1985) found that community college students are considerably older than traditional 18- to 21-year-old students, this may indicate that older and minority students may well be diverted from the "American Dream" of eventually acquiring a bachelor's degree. On the other hand, it may indicate that older students attend community colleges for reasons other than achieving an upper-level degree.

Degrees

Probably because it allows for transfer to a four-year institution, many consider the Associate of Arts (AA) degree to be the most sought-after degree in the community college (Neumann, 1985). Yet, apparently older students increasingly seem to be opting for degrees and courses that do not lead to the AA degree. Tinto (1987) predicted that approximately 33% of entering freshmen would complete their associate's degree, while Cope (1986) stated that about 20% of entering first-year students in community colleges would be awarded an AA degree.

Length of Time for Degree Completion

Students in higher education are taking longer to complete their degrees (Clarkson & Roscoe, 1994). In 1977, 67% of high school graduates who went to college completed their college degrees within five years. By 1991, only 57% graduated from college within five years of graduation of high school (Terenzini & Pascarella, 1991). The number of hours students worked did not prove to be related to length of time to graduation, but gender and minority status did. Women completed sooner than men and minorities, especially blacks, who took a longer time to graduate than whites (Clarkson & Roscoe, 1994).

Minority Students

According to Solomon and Gordon (1981), minorities comprise the largest proportion of nontraditional-age students in community colleges. Astin (1982) found greater attrition among black students than white students in community colleges, while Peng and Fetters (1978) found no significant differences in persistence rates between black and white students. Voorhees (1987) suggested that minority status did not appear to affect persistence. Researchers have observed that black women are socialized to succeed academically with higher self-esteem than white women or black men (Barnes, 1980).

Tracey and Sedlacek (1987) found that GPA was not a predictor of persistence for black male students in the sample; however, they did find that high school class rank could predict college GPA. In addition, they found that noncognitive variables such as prior leadership experience, realistic expectations of goals, and academic self-confidence were predictors of GPA for African-American students.

Tracey and Sedlacek (1987) found that high school rank also could predict the GPA of Latino students. Olivas (1986) pointed out that Latino students lack information about college admission, financial aid, and course requirements. Nora and Rendon (1990) stated that Latino students are dropping out at a much higher rate than white students. They posited that Latino students generally come from low socioeconomic status (SES) families and maintain work hours that decrease study hours available. Due to the decreased time Latino students spend on campus, they are believed to have low institutional affiliation needs considered critical by several researchers (Nora, 1987; Olivas, 1986).

Some researchers have identified factors that may increase both the institutional and goal commitments of Latino students. In a study of urban community colleges, Cohen and Brawer (1982) found that a combination of variables associated with both student/college environment and student background factors may predict the academic success or failure of Latino students enrolled in community colleges. Nora (1987) identified high-level, campus-based resource support as a factor that increased grade point average of Latino students.

Grade Point Average (GPA)

Bean and Metzner (1985) reported that the GPA of part-time student dropouts was above the average for all the part-time students at a community college. Older students were found to have higher GPAs than younger students (Bean & Metzner, 1985; Kasworm, 1990). Seale (1984) found that older students had higher GPAs than traditional-age students in community colleges except for minority students, who tended to have lower GPAs. Bean and Metzner (1985) suggested that the higher GPA of older students may result from the fact that nontraditional-age students generally miss fewer classes, study more hours, and carry fewer credit hours per semester than traditional-age students.

Many researchers considered high school grades to be the most important predictor of college academic success. Tinto (1975), Feldman (1993), and Clarkson and Roscoe (1994), for instance, found high school GPA related to persistence. Bean and Metzner (1985) pointed out that when high school grades were taken into account, older students were found to equal or surpass the academic performance of younger students in community colleges.

Gender

Tinto (1987) suggested that researchers need to use factors that may create important variations when they examine the causes of departure or persistence. He suggested, for example, that the experience of older women students differs, at least in part, from that of younger male college students.

The increase of older females in higher education has led to a dramatic increase in representation of women in the studies of adult students (Solomon & Gordon, 1981). Feldman (1993) and Voorhees (1987) both found that females had a higher persistence rate than males, while Brooks-Leonard (1991) found that gender was not related to persistence. This difference in findings may reflect differences in research designs. Feldman (1993), using analyses and logistic regression to accommodate for a dichotomous dependent outcome with both categorical and measured predictors, found gender played a role in persistence, while Brooks-Leonard (1991) did not use logistic regression.

Adult Learning Theory

Knowles (1984) developed a system of teaching, called andragogy, based on the assumptions that adults generally have a basic need to be self-directed. Knowles defined andragogy as the art and science of helping adults learn. According to Caffarella (1993), Knowles set guidelines for assisting adults to become self-directed in their learning experiences. Self-directed learning encompasses three principal ideas: ability to plan and manage one's own learning, personal autonomy, and greater learner control in the learning situation. The primary emphasis is on adult learners taking responsibility for their own self-development (Caffarella, 1993).

Prospective transformation, a theory of adult learning developed by Mezirow (cited in Heimstra, 1993), includes critical reflection of one's own beliefs and perceptions as the methods by which adults attach meaning to reality. Both of these theories, self-directed learning and prospective transformation, have been criticized by Brockett and Heimstra (1991), who expressed the belief that adults may not always choose to be self-directed. During some learning activities, such as learning to fly an airplane, studying to become a surgeon, or learning computer programming, an adult may, in fact, not have any desire to be self-directed. Caffarella (1993) proposed four variables that appear to influence adult learners' desires for autonomy in learning situations: level of technical expertise; knowledge of the subject matter; personal sense of competence as learners; and time, place, and circumstances of the learning experience.

Cross (1981), who contributed significantly to the understanding of the adult learner, devised the Characteristics of Adult Learners (CAL) model. This model couples personal characteristics such as biological aging, sociocultural life phases, and psychological/developmental life stages with situational characteristics such as part-time learning versus full-time learning, type of institution, and so forth.

Additional Variables

The use of archival data for the first part of the study prevented inclusion of data not contained on the master student information file. Several variables in the literature correlated with persistence of nontraditional-age students. One of the most frequent reasons given for not continuing in a community college, for instance, was family responsibilities. According to Bean and Metzner (1985), this reason was most frequently cited by part-time, older students. Bean and Metzner (1985) concluded that age per se, while not representing a major factor alone, when correlated with family responsibilities and hours of employment, may be "significantly associated with persistence" (p. 41). Reeling (1980) found the number of children living at home influenced the dropout rate among older female students enrolled in community college classes. He found that the more children they had, the less likely these women persisted in college.

Part-time status was also mentioned as a factor significantly relating to persistence. Solomon and Gordon (1981) reported that older students were more likely to be part-time students: "75% of all two-year college attenders between the ages of 25 and 34 enrolled part-time in 1979" (p. 9). Seale (1984) found that working full time had a larger negative effect on the GPAs of males than it did on females. Lenning, Beal, and Sauer (1980) found a significant relationship between part-time attendance and attrition.

They found that part-time students were far less likely to persist.

In the future, the verity of community colleges may depend not only on the opportunities they provide to the nontraditional-age students, whether they be minority or nontraditional age, but also on the measures community colleges choose to offer these students to help them reach their personal goals successfully (Nora & Rendon, 1990). In addition to studying the factors that lead to stopping out, it would make sense to study the factors that contribute to persistence through graduation of nontraditional-age community college students over the age of 40.

Summary

Chapter 2 included reviews of studies relating to adult students in higher education settings. Subareas consisted of nontraditional-age students, persistence, community college students, degrees, length of time for degree completion, minority students in community colleges, GPA, gender, adult learning theories, family and job responsibilities, and part-time students. The literature also included studies that related to degree awarded; length of time for degree completion; and GPA by age, ethnicity, and gender.

CHAPTER 3
METHODOLOGY

This chapter contains the purpose, research questions and null hypotheses, population, sample, research design, source for data, statistical tests, data collection process, confounding factors, external validity, and assumptions for this study.

Purpose of the Study

The purpose of the study was to compare degrees awarded, length of time to graduation, and grade point average (GPA) for traditional and nontraditional-age students in a community college. The study was divided into two sections. The first part contained a retrospective comparison of choices of degrees, timelines for graduation, and final grade point average (GPA) of traditional-age and nontraditional-age graduates. The second section was a descriptive study of 12 graduates who represent nontraditional-age students. These graduates were interviewed to explore what exogenous factors may have influenced their graduation timeline, choice of degree, and final GPA. For the purposes of this study, the age for community college students to be considered nontraditional was 40 and older. This age was chosen after Witt et al.

(1994) identified the community college student average age as 28. Forty was also the minimum age recommended by Brooks-Leonard (1991) in her study of two-year college students.

The degree choices were the Associate of Arts (AA) degree, which leads to possible transfer to a four-year institution of higher education; the Associate of Science (AS) degree, which is sometimes labeled a terminal degree; and the Certificate, which may ensure competency in a selected occupation.

While many researchers have examined the rate of the continuous student enrollment from first to second year in a community college setting, few have examined the factors that may have led to successful completion of degree or certification of nontraditional-age students over the age of 40 in a community college setting. As Knowles (1984) said, "Colleges and universities have been among the slowest to respond to adult learners" (p. 284).

This study compared the degree choices, timelines for graduation, and final GPA of students in a community college setting by age, race, and gender. The information from this study adds to the knowledge base that exists concerning the persistence of different population subgroups in community colleges. Such information will support policy changes that may be needed.

Age 40 was the base age for defining nontraditional-age community college students in this study to capture the returning "Baby Boom" students.

Research Questions

The following questions and null hypotheses are derived from a review of literature concerning student dropouts or persisters and adult learning theories that drove the investigation reported in this dissertation:

Question 1: Is there a difference in degree by age, race, or gender?

Ho: There is no difference in degree by age, race, or gender.

Question 2: Is there a difference in time to complete the degree by age, race, or gender?

Ho: There is no difference in time to complete the degree by age, race, or gender.

Question 3: Is there a difference in time to complete by degree?

Ho: There is no difference in time to complete by degree.

Question 4: Is there an interaction between degree, age, race, and gender in determining time to completion?

Ho: There is no interaction between degree, age, race, and gender in determining time to completion.

Question 5: Is there a difference in GPA at graduation by age, race, or gender?

Ho: There is no difference in GPA at graduation by age, race, or gender.

Question 6: Is there a difference in GPA by degree?

Ho: There is no difference in GPA by degree?

Question 7: Is there an interaction between degree, age, race, and gender in determining GPA?

Ho: There is no interaction between degree, age, race, and gender in determining GPA.

The null hypothesis for question 1 was tested with chi-squares. The null hypotheses for questions 2, 3, and 4 were tested with one four-way ANOVA with time to graduate as the dependent measure. The null hypotheses for questions 5, 6, and 7 were tested with one four-way ANOVA with GPA as the dependent measure.

Subjects

The population for this study consisted of both traditional-age and nontraditional-age graduates in the spring of 1994 at a nonresidential community college in northeastern Florida. The 369 traditional-age students made up 83.75% of the study population while 72 nontraditional-age students made up 16.25% of the study. The study group was composed of 89.16% white students and 10.84% black students and 63.66% female students and 36.34% male students.

The study was divided into two sections. The first section of the study contained all 72 nontraditional-age students and a random sample of 369 of the traditional-age students. In the second section, 12 nontraditional-age students from this population were interviewed.

Research Design

To explore the possible influence of both demographic and environmental variables on degrees awarded, length of time to graduate, and GPA, two methods were used to collect data. The data for the background variables were collected from a random sample of 369 traditional-age students and all 72 students over the age of 40 listed in the Santa Fe Community College master student file of May 1994 graduates. The students' social security numbers were used to determine birth dates and dates of entry. Before the data were released, the social security numbers and names were purged from the report.

Quantitative Methodology

The first part of the study explored the influence of the independent variables degrees, age, race, and gender. The statistical tests used for the first null hypothesis were chi-squares. Four-way ANOVAs were used to test for main and interaction effects between the variables for the last six null hypotheses.

Qualitative Methodology

In the second section, 12 nontraditional-age students from the study population were interviewed to confirm the findings of other recent studies that exogenous factors along with background variables strongly influence degree selection, persistence, and GPA of nontraditional-age students.

Several forms of interviews may be used in qualitative research (Merriam, 1991). The structured interview is generally used when researchers are seeking demographic information, according to Merriam. Specific questions are asked in specific order, with no deviation of text or order of the questions. In her well-respected text on qualitative research methods, Merriam called the structured interview "an oral form of a written survey" (p. 73). In contrast, the unstructured interview is used when unknown or unfamiliar situations are being studied. "The unstructured interview [explores] all possibilities regarding the information sought [and] helps identify and define important areas of information that might be studied through other techniques at another time" (Merriam & Simpson, 1984, p. 74).

Semistructured interviews are somewhere on the continuum between structured and unstructured interviews. The study's interviews were semistructured because specific information other than demographic information was sought from each person interviewed (Merriam, 1991). Using Merriam's suggestions, semistructured interviews were held with 12 nontraditional-age graduates after a list of questions was prepared. The questions were asked in random order, allowing each respondent to discuss whatever area they chose at a pace they set. The data emerged from the interviews.

Scope of the Study

The study contained two data collection methods: quantitative and qualitative. In the quantitative section data relating to all 443 students from the May 1994 graduating class were examined. In the qualitative section, semistructured interviews were limited to 12 nontraditional-age students from the study population.

Data Collection Process

The data for the GPA and the degrees awarded were collected from the student master data base by the Institutional Review and Planning Department of Santa Fe Community College. The data for the students' dates of birth and dates of entry into the college were compiled by the researcher from the student master file data from computers in the Institutional Review and Planning Department and the registrar's office at Santa Fe Community College.

Data for the second section were collected from semistructured telephone interviews.

Statistical Tests for the Study

Chi-square tests were used to test null hypothesis 1 because the dependent variable, degree, was categorical. They tested for significant differences of the three independent variables on the dependent variable. The statistical tests chosen for hypotheses 2 through 7 were four-way ANOVAs because the dependent variables, length of time to graduate and GPA, were both continuous variables.

The ANOVA was selected to test the effect of each combination of independent variables. This ultimately reduced any systematic error variance, thus producing a more precise estimate of unsystematic variation or error. Follow-up _t_-tests were used when an interaction was found. All null hypotheses were reported at the <.05 level of significance.

Confounding Factors

Confounding exists when the variance of one or more independent variables, usually outside the focus of the research, mixes with the variance arising from the independent variable.

Intelligence test scores were not included as factors in this study, despite the possibility that a student's GPA may have been confounded with this factor. Because test questions have changed over the last four decades to reflect cultural values current at particular times, scores from different decades may not be specifically comparable. The researcher believed that test scores from the sample population may not be comparable because the students varied significantly in ages and backgrounds.

The length of time from entry to graduation may be confounded by changes in the graduates' educational intentions. For example, if a student entered in the 1970s and received a certificate, then reentered, and graduated with an AS degree in 1994, the length of time from entry to graduation would be misleading. To rectify this confusion, several community colleges now are collecting data about changes of degree intent.

External Validity

External validity refers to the extent that results and conclusions may be generalized to other people, places, and times. In this study, external validity may be questionable, because Santa Fe Community College may not represent other community colleges in Florida or in the United States. The economic, political, social, cultural, ethnic, and demographic mixture may not represent those existing in other community college districts. State Board of Community Colleges data show that Santa Fe Ccommunity College (SFCC) has the lowest proportion of nontraditional-age students among the state's 28 community colleges.

Assumptions for Chi-Square Tests

The assumptions for using chi-square tests are as follows:

1. Independence. The observations are independent of one another.

2. Frequency. The measure for observations.

Assumptions for Four-Way ANOVAs

The assumptions for using the methodology of four-way ANOVAs are as follows:

1. Independence. Subjects are independent of each other.

2. Normality. The scores within each cell are drawn from a population exhibiting normally distributed scores.

3. Homogeneity of variance. The variance in population scores is equal with groups.

Assumptions for Using Qualitative Research

1. Richer information can be gathered through personal interviews.

2. The information can be expanded and generalized into theory (Yin, 1989).

3. "Qualitative research has the aim of understanding experience as nearly as possible as its participants feel it or live it" (Sherman & Webb, 1988, p. 7).

Summary

Chapter 3 contained the purpose, research questions and null hypotheses, population, sample, research design, source for data, statistical tests, data collection process, confounding factors, external validity, and assumptions for this study.

The research design for this study was chosen to determine selected differences between traditional-age and nontraditional-age students in degree awarded, length of time to graduation, and GPA at graduation. The study was divided into two sections. The data for the first section were collected from the Santa Fe Community College master list of students by the Institutional Review and Planning Department. The population in the first section included a random sample of traditional-age graduates and all the nontraditional-age graduates of the Spring 1994 class. In the second section, exogenous variables were explored using a semistructured interview with 12 of the nontraditional-age graduates in this class.

CHAPTER 4
RESULTS AND DISCUSSION

The purpose of the study was to compare degrees awarded, length of time to graduation, and grade point average (GPA) for traditional and nontraditional-age students in a community college.

Included in this chapter are the results of this study, descriptive characteristics of the sample, relationships between various independent and dependent variables, a summary of interviews with 12 nontraditional-age students from the study group, and a summary of the study's finding.

Study Questions

Question 1

Is there a difference in degree by age, race, or gender?

The null hypothesis was as follows: There is no difference in degree by age, race, or gender. This null hypothesis was tested with five chi-squares. The first chi-square test was used to determine if degree differences could be accounted for by differences in age. The second and third chi-squares tested for degree differences for each race by age groups, including traditional-age and nontraditional-age students. The last two chi-square tests were used to determine if degree differences could be accounted for by gender differences for each age group.

The results of the first chi-square test relating to degree by age appear in Table 1. Table 1 includes the frequency and percentage of Associate of Arts degrees, Associate of Science degrees, and Certificates awarded to the students in the sample study group. The degrees are listed in rows and the ages in columns. In the first row, under Traditional, the number 190 represents the number of AA degrees awarded to traditional-age students. The number 51.21 represents the percentage of students within the traditional-age group who received an AA degree, or 190 out of a total of 371 traditional-age students in the study. All other tables are prepared in the same way.

AA degrees were awarded to 51.21% of the traditional-age students and 16.67% of nontraditional-age students. AS degrees were awarded to 36.93% of the traditional-age students and 59.72% of the nontraditional-age students. Certificates were awarded to 11.86% of the traditional-age students and 23.61% of the nontraditional-age students. Table 2 shows the chi-square statistical value with two degrees of freedom was 29.54 with a p-value of 0.00. This p-value was well below the <.05 type error level. Thus, the null hypothesis for question 1 was rejected and the answer to question 1 was yes, there were differences in degrees by age. This result indicated that the majority of the

Table 1

Frequency of Degrees by Age of Study Participants

Frequency Percent Row Pct Col Pct	Traditional	Nontraditional	Total
AA DEGREES	190 42.89 94.06 51.21	12 2.71 5.94 16.67	202 45.60
AS DEGREES	137 30.93 40.63 36.93	43 9.71 76.11 59.72	180 40.63 23.89
CERTIFICATES	44 9.93 72.13 11.86	17 3.84 27.87 23.61	61 13.77
TOTAL	371 83.75	72 16.25	443 100.00

Table 2

Statistics for Degree by Age of Study Participants

Statistic	DF	Value	Prob
Chi-Square	2	29.540	0.000*
Likelihood Ratio Chi-Square	2	32.093	0.000*
Mantel-Haenszel Chi-Square	1	26.190	0.000*
Phi Coefficient		0.258	
Contingency Coefficient		0.250	
Cramer's V		0.258	

Sample Size = 443
*Significant differences @ <.05 probability

traditional-age students in the study group received AA degrees (51.21%) while the majority of nontraditional-age students in the study group received AS degrees (59.72%).

The second chi-square test results for degrees by race of traditional-age students are found in Table 3. Table 3 presents the frequency and percentage of AA degrees, the AS degrees, and Certificates awarded to traditional-age white and black students. The data are listed in the same way as the Table 1 data, with degrees reported in rows and races reported in columns. AA degrees were awarded to 51.38% of the white traditional-age students and 50.00% of the black traditional-age students. AS degrees were awarded to 37.92% of the white traditional-age students and 29.55% of the black traditional-age students. Certificates were awarded to 10.70% of the white traditional-age students and 20.45% of the black traditional-age students.

Table 4 presents the statistic for this chi-square. This statistic with two degrees of freedom is 3.86 had a .15 probability level, well above the <.05 probability level. Thus, degree selection was found to be no different by race of the traditional-age students.

This finding indicates that the differences in degree selection of traditional-age students in the study group did not depend upon race.

Table 3

Frequency of Degrees by Race of Traditional-Age Study Participants

Frequency Percent Row Pct Col Pct	White	Black	Total
AA DEGREES	168 45.28 88.42 51.38	22 5.93 11.58 50.00	190 51.21
AS DEGREES	124 33.42 90.51 37.92	13 3.50 9.49 29.55	137 36.93
CERTIFICATES	35 9.43 79.55 10.70	9 2.43 20.45 20.45	44 11.86
TOTAL	327 88.14	44 11.86	371 100.00

Table 4

Statistics for Degree by Race of Traditional-Age Study Participants

Statistic	DF	Value	Prob
Chi-Square	2	3.860	0.145
Likelihood Ratio Chi-Square	2	3.427	0.180
Mantel-Haenszel Chi-Square	1	1.006	0.316
Phi Coefficient		0.102	
Contingency Coefficient		0.101	
Cramer's V		0.102	

Sample Size = 371
*Significant difference @ <.05 probability

The third chi-square tested for differences in degree selection of nontraditional-age students by race. The results of this chi-square test for nontraditional-age students of degrees by race are reported in Table 5, which shows frequency and percentage of AA degrees, AS degrees, and Certificates awarded to nontraditional-age white and black students. The data are listed in the same way as the Table 1 data, with degrees reported in rows and races reported in the columns. AA degrees were awarded to 14.71% of the white nontraditional-age students and 50.00% of the black nontraditional-age students. AS degrees were awarded to 61.76% of the white nontraditional-age students and 25.00% of the black nontraditional-age students. Certificates were awarded to 23.53% of the white nontraditional-age students and 25.00% of the black nontraditional-age students.

The statistic for this chi-square is presented in Table 6. This statistic with two degrees of freedom was 3.68 with .16 probability level, well above the <.05 probability level. Thus, the null hypothesis for degrees by race of the nontraditional-age group was accepted, as degree selection was found to be no different by race of the nontraditional-age students. Thus, the part of question 1 concerned with the differences in degrees by race was negative for both age groups, and the null hypothesis is accepted.

Table 5

Frequency of Degrees by Race of Nontraditional-age Study Participants

Frequency Percent Row Pct Col Pct	White	Black	Total
AA DEGREES	10 13.89 83.33 14.71	2 2.78 16.67 50.00	12 16.67
AS DEGREES	42 58.33 97.67 61.76	1 1.39 2.33 25.00	43 59.72
CERTIFICATES	16 22.22 94.12 23.53	1 1.39 5.88 25.00	17 23.61
TOTAL	68 94.44	4 5.56	72 100.00

Table 6

Statistics for Degree by Race of Nontraditional-age Study Participants

Statistic	DF	Value	Prob
Chi-Square	2	3.682	0.159
Likelihood Ratio Chi-Square	2	2.978	0.226
Mantel-Haenszel Chi-Square	1	1.073	0.301
Phi Coefficient		0.226	
Contingency Coefficient		0.221	
Cramer's V		0.226	

Sample Size = 72
*Significant difference @ <.05 probability

The fourth chi-square tested for degrees by gender of traditional-age students. The results of the chi-square tests relating to gender appear in Table 7, which shows frequency and percentage of degrees by gender of traditional-age students. AA degrees were awarded to 44.58% of the traditional-age females and 63.36% of the traditional-age males. AS degrees were awarded to 42.50% of the females and 26.72% of the males. Certificates were awarded to 12.92% of the traditional-age females and 9.92% of the traditional-age males. Thus, the majority of traditional-age females earned terminal degrees, the AS degree and Certificates, and the majority of traditional-age males earned AA degrees that lead to a four-year degree.

Table 8 shows the chi-square statistical value with two degrees of freedom was 12.18 with .00 probability level. Since the p-value is below the <.05 type error level, the differences in degrees for traditional-age students were significant by gender. Therefore, the null hypothesis was rejected, and the third part of the question was answered yes; for traditional-age students there was a significant difference in degree selection by gender. Thus, the degrees differed by gender for traditional-age students.

The fifth chi-square analysis tested for degree by gender for nontraditional-age students. Table 9 reports the results of the chi-square analysis of degrees by gender for nontraditional-age students. AA degrees were earned by

Table 7

Frequency of Degrees by Gender of Traditional-Age Study Participants

Frequency Percent Row Pct Col Pct	Female	Male	Total
AA DEGREES	107 28.84 56.32 44.58	83 22.37 43.68 63.36	190 51.21
AS Degree	102 27.49 74.45 42.50	35 9.43 25.55 26.72	137 36.93
CERTIFICATES	31 8.36 70.45 12.92	13 3.50 29.55 9.92	44 11.86
TOTAL	240 64.69	131 35.31	371 100.00

Table 8

Statistics for Degree by Gender of Traditional-Age Study Participants

Statistic	DF	Value	Prob
Chi-Square	2	12.190	0.002*
Likelihood Ratio Chi-Square	2	12.339	0.002*
Mantel-Haenszel Chi-Square	1	8.416	0.004*
Phi Coefficient		0.181	
Contingency Coefficient		0.178	
Cramer's V		0.181	

Sample Size = 371

* Significant difference @ >.05 probability

Table 9

Frequency of Degrees by Gender of Nontraditional-age Study Participants

Frequency Percent Row Pct Col Pct	Female	Male	Total
AA DEGREES	9	3	12
	12.50	4.17	16.67
	75.00	25.00	
	21.43	10.00	
AS DEGREES	21	22	43
	29.17	30.56	59.72
	48.84	51.16	
	50.00	73.33	
CERTIFICATES	12	5	17
	16.67	6.94	23.61
	70.59	29.41	
	28.57	16.67	
TOTAL	42	30	72
	58.33	41.67	100.00

21.43% of the female nontraditional-age students and 10.00% of the male nontraditional-age students. AS degrees were earned by 50.00% of the female nontraditional-age students and 73.33% of the male nontraditional-age students. Certificates were earned by 28.57% of the female nontraditional-age students and 16.67% of the male traditional-age students.

Table 10 reveals the chi-square statistical value with two degrees of freedom was 3.68 with .15 probability level. Since the p-value was above the <.05 type error level, there was no significant difference in degrees by gender for nontraditional-age students. Futhermore, for nontraditional-age students there was no significant difference in degree selection between the genders. On the other hand, for traditional-age students, degrees differed by gender. Thus, the findings indicated that degrees were significantly different by gender for traditional-age students, while they were not significantly different for nontraditional-age students. This meant that the majority of both traditional-age female students and almost all nontraditional-age students earned awarded terminal degrees (AS degrees and certificates) while the majority of traditional-age males earned AA degrees.

Table 10

Statistics for Degree by Gender of Nontraditional-age Study Participants

Statistic	DF	Value	Prob
Chi-Square	2	4.017	0.134
Likelihood Ratio Chi-Square	2	4.123	0.127
Mantel-Haenszel Chi-Square	1	0.001	0.975
Phi Coefficient		0.236	
Contingency Coefficient		0.230	
Cramer's V		0.236	

Sample Size = 72
* Significant difference @ >.05 probability

To review the findings for question 1, there was a difference in degree selection by age; race made no difference in degree selection; and gender made a difference to the degree selection of female traditional-age students.

Questions 2, 3, and 4

Questions 2, 3, and 4 all relate to length of time to complete the degree:

> Question 2--Is there a difference in time to complete the degree by age, race, or gender?
>
> Question 3--Is there a difference in time to complete by degree?
>
> Question 4--Is there an interaction between degree, age, race, and gender in determining time to completion?

The null hypotheses for questions 2, 3, and 4 were tested with one four-way ANOVA. The results of this analysis are reported in Table 11, the source table for graduation timeline. The analysis revealed that for for length of time to graduation, degrees (p=.14) and age (p=.06) and race (p=.14) were not significant. Each had a significant p-value above the <.05 significance level. This indicated there was no significant difference in length of time to complete the degree by age or race of the student, but there was a significant difference by gender. Gender (p=.04) was statistically significant, below the >.05 significance level, and when gender was combined with race (p=.04) there was a significant difference in length of time to graduate.

Therefore, the null hypotheses for question 2--There is no difference in time to complete the degree by age, race, or gender--and for question 4--There is no interaction between degree, age, race, and gender in determining time to complete--were both rejected, and questions 2 and 4 were answered affirmatively. The null hypothesis failed to be rejected for question 3--Yes, there is no difference in time to complete by degree--and question 3 was answered with a no--there is no difference in time to complete by degree.

Table 11

ANOVA Source Table for Graduation Timeline of Participants

Source	DF	Type IIISS	Mean Square	F Value	Pr>F
DEGREE	2	13543.56	6771.78	2.00	.14
AGE	1	1326.33	1326.33	.39	.53
GENDER	1	13658.75	13658.75	4.04	.04*
RACE	1	7454.04	7454.04	2.20	.14
DEGREE*AGE	2	18975.76	9487.88	2.80	.06
DEGREE*GENDER	2	7506.69	3753.35	1.11	.33
DEGREE*RACE	2	906.79	453.40	.13	.88
AGE*GENDER	1	394.45	394.45	.12	.73
AGE*RACE	1	11887.73	11887.73	3.51	.06
GENDER*RACE	1	13590.31	13590.31	4.02	.04*
ERROR	428	144096.93	3383.40		

*Significant difference @ <.05 probability

To review, when race and gender were combined, there was a significant difference in length of time to complete the degree.

T-test

Table 12 shows the results of the follow up *t*-tests run to determine what kind of interaction existed between race and gender. The mean length of time for white females to complete their degrees was 64.19 months and for black females 36.97 months. Thus, the mean length of time to graduation for white females was significantly higher than that of black females (p=.01).

There were no significant difference between mean graduation time of white females and white males (p=.93).

The mean length of time for white males to graduate was 64.73 months and for black males 75.89 months. There were no significant differences in mean graduation time of white males and black males (p=.51).

There was a significant difference in mean graduation time between black females and black males (p=.01). Thus, the effect of gender on graduation time proved significantly different for blacks. Similarly, mean graduation time for white female students was significantly different from mean graduation time for black female students. Thus, the *t*-test confirmed the finding that when gender was combined with race, there was a significant difference in length of time to graduate.

Table 12

T-Test for Length of Time to Graduate by Race and Gender of Study Participants

Gender	Race	
	White	Black
Female	64.29	36.97 (.0117)*
Male	64.73	75.89 (.5155)
	(.9330)	(.0119)*

*Significant difference @ <.05 probability

Questions 5, 6, and 7

Questions 5, 6, and 7 all related to the final GPA:

Question 5--Is there a difference in GPA by age, race, or gender?

Question 6--Is there a difference in GPA by degree?

Question 7--Is there an interaction between degree, age, race, and gender in determining GPA?

A second four-way ANOVA was run to test the null hypotheses concerning the degree, age, race, and gender alone and in combination on the final GPA. Table 13 presents the ANOVA source table that shows the significant effect of both gender and race on the final GPA of the students. The analysis reported that for the final GPA, degrees (p=.63) and age (p=.41) were not significant. Race (p=.02) and gender (p=.01) each had a significant p-value well below the <.05 significance level. No interaction was found between degree, age, race, and gender in determining the final GPA. This result indicated that only race and gender each made a significant difference on the final GPA of the students. These findings led to rejecting the null hypothesis for question 5--There is no difference in GPA by at graduation by age, race, or gender. On the other hand, the findings led to accepting the null hypothesis for question 6--There is no difference in GPA by degree.

Table 13

ANOVA Source Table for GPA of Study Participants

Source	DF	Type IIISS	Mean Square	F Value	Pr>F
DEGREE	2	.18	.09	.46	.63
AGE	1	.13	.13	.67	.41
GENDER	1	1.16	1.68	6.13	.01*
RACE	1	1.07	.07	5.64	.02*
DEGREE*AGE	2	.38	.19	1.00	.36
DEGREE*GENDER	2	.03	.14	0.07	.92
DEGREE*RACE	2	.65	.33	1.71	.18
AGE*GENDER	1	.56	.56	2.95	.08
AGE*RACE	1	.00	.00	0.01	.93
GENDER*RACE	1	.01	.00	0.03	.86
ERROR	428	81.50	.19		

*Significance level @ <.05 probability

To review, there was no difference in GPA between traditional-age and nontraditional-age students and no difference by degrees but there was a difference in GPA by gender and by race: White students had a higher mean GPA (3.09) than black students (2.83), and female students had a higher mean GPA (3.01) than male students (2.91).

Qualitative Data Analysis

The qualitative section presents a descriptive study of 12 nontraditional-age students from the study group, including six females and six males. These nontraditional-age students were interviewed to better understand what factors may have influenced degree choices, length of time to completion, and final GPA.

Sample

The group consisted of six female students and six male students from the nontraditional-age group of the study population. Their ages ranged from 40 to 65 years old. Two of the females were black; all of the males were white.

Selection Process

The names of the nontraditional-age students were identified by the director of Planning and Institutional Review at Santa Fe Community College. The researcher obtained the telephone numbers for the interviews from the registrar's student master list. After initial contact, 12 semistructured interviews were held over the telephone (see Appendix).

Interview Process

Each interview lasted for approximately 15 minutes. A total of seven questions were posed. The first question expanded on the results of the quantitative section. The second question expanded on this information to explore why the students had chosen their degrees. The third question, concerning length of time to complete a degree, allowed the students to explain the reasons for not completing in the expected length of time. The last four interview questions were designed to delve into other factors that may have influenced degree choices, length of time to complete degree, and GPA at graduation. Respondents discussed whatever areas they chose, at a pace set by themselves. The interviews yielded the following information and perspectives.

1. What Degrees Did You Take?

AA degree. One student received an AA degree in accounting.

AS degree. A total of nine of the students received AS degrees. Eight majored in nursing and one majored in office systems technology. Five of these students had already earned BA degrees and one a master's degree before entering the community college.

Certificates. Two of the students received certificates, one in air-conditioning and heating and one in nursing.

2. Why Did You Take That Degree?

The two main reasons given for choosing a degree program were for specific career changes and higher pay. An interest in medicine and optimism about the future of well-paid health-care jobs prompted nine of the students to enter nursing. "To get a better job in a short period of time" was the reason one female student gave for entering the nursing program. Another female nursing graduate said, "I felt fortunate that I chose what I did. It brought the salary I want to help my daughter now attend the community college." A male nursing graduate with a bachelor's degree said, "I can't imagine anyone who would want to go into liberal arts. There's no future in it." A female who had minimal education and job experience earned an AS in office systems technology to narrow the competitive gap between herself and the many overqualified applicants in a college town job market.

3. How Long Did You Take You to Complete the Degree?

AA degree. Community college AA degree programs take a full-time student two years to graduate. The lone AA student in the group studied at Santa Fe Ccommunity College for four years as a full-time student exploring various degree options. After she decided to become an accountant, she "started from scratch" with intensive math remediation. Her subsequent success influenced her to seek a joint degree in law and accounting at a four-year institution.

AS degree. AS degrees require at least 64 hours. Eight of the 12 respondents completed the AS degree in nursing constructed as a 20-month, lock-step AS program. However, seven of the nursing graduates in this group averaged at least three years from entrance to completion. The requirement of a high GPA for entrance into the nursing program literally forced seven of the nursing students to retake prerequisites in order to raise their GPAs to acceptable levels. For these seven students, taking these prerequisite classes lengthened their time to degree completion. "They say it's two years," commented one, "but it takes at least a year just to do the [prerequisite] courses."

The AS student in the office systems technology course took three years to complete the required 60 hours. She reported that she dropped several classes because she did not think she could pass them and then had to take them anyway.

Certificate. Certificate programs vary from 9 to 90 contact hours. Most certificate programs, if offered as full-time courses of study, would take a year to complete; however, some take only one semester. The completion time of a certificate program varies widely. One of the certificate students took seven years to complete his 90-hour course in air conditioning and heating repair by attending part time at night. Santa Fe Community College offers only enough credits in that program each semester to enable a student to complete it in a minimum of four years. The second certificate student took one semester to complete a 10-hour course to become a Certified Nursing Assistant.

4. Describe the other factors influencing degrees, length of time to graduation, and GPA?

One of the most frequently mentioned beliefs was these older students' determination to get their degree so that they could achieve a stable and rewarding career. "I'm more motivated this time than before because I knew what I wanted to do," said one male student who returned after 20 years away from higher education. One pointed out that older students were more likely to "hang in there" than younger students.

The factors that the respondents listed as concerns when they entered their programs were fear of failure, job responsibilities, financial concerns, and children. All of the 12 students described their concern with being able to "make it" after returning to higher education after a period of time. This concern is termed "fear of failure" by researchers such as Steltenpohl and Shipton (1986) and Schlossberg, Lynch, and Chickering (1989). Eight of the 12 students mentioned job responsibilities, cited by Metzner and Bean (1987), as a major impediment to persistence of nontraditional students. Financial concerns, cited by Olivas (1986), were discussed by those students who could not qualify for student financial aid. Concern for children, cited by Moody (1986), was identified by five of the students. Fear of failure, job responsibilities, financial concerns, and children were all cited as factors that influenced degrees, length of time to completion, and GPA.

Fear of failure. Steltenpohl and Shipton (1986) have argued, "Adult students generally experience feelings of inadequacy and marginality upon entry or reentry to college, feelings that are counterproductive to academic success. New adult students lack confidence in their ability to study and learn. They are strangers in this new world. They are marginal" (p. 638).

This study reinforced these findings. All 12 of the students expressed initial anxieties over returning to the classroom after many years. The five students with bachelor degrees voiced more assurance but nevertheless expressed their concerns. "I knew I could do it, with a lot of hard work, but I was anxious to see if I could compete with younger minds," answered one. One student said that he initially feared that he could not compete with younger students after many years away from formal education, but he added, "The way I see it, fear was good. It motivated me. I was fanatical about the classwork, even though it detracted from my time with my wife and 14-year-old." One woman said that she dropped several classes because she feared that she would not be successful. When she repeated them, as required, she passed successfully, ruefully reporting that she lost a lot of time and money because of her fear of failing the courses.

Job responsibilities. Researchers have cited the number of hours on the job as a factor significantly relating to persistence. Lenning et al. (1980) found part-time students less likely to persist. Nine of the 12 graduates interviewed in this study worked part time while completing their college course work, and two worked full time. One of the graduates said that although he worked full time, he would have preferred attending more class hours to finish his 90-hour air conditioning repair program sooner. The college scheduled so few credit hours per semester that it took him seven years to earn the certificate.

Bean and Metzner (1985) concluded that age combined with job and family responsibilities significantly related to persistence of nontraditional-age students. Several respondents in this study described how the intensity of their programs placed burdens on their families. Yet, the interviews also indicated that older students often tackle and overcome challenges that younger students might see as insurmountable.

Because this study concerned only students who graduated, it did not ascertain how or whether hours of work might have affected students who did not complete their degrees as compared to those who did. Two respondents--a male nursing student who was a single parent with one daughter and the male in the air conditioning certificate program who had no children--worked full time while in school. The other 10 students worked from 4 to 20 hours a week.

Financial concerns. Nine of the respondents referred to financial difficulties as a concern, especially the three who were the sole support for their children. They mentioned their financial situations as challenges that they overcame. Those with BA degrees did not qualify for financial aid, and all those receiving financial aid were required to attend full time. "More broadly accessible financial aid would ease the load," said one male with a BA. One male commented that he could not receive financial aid and had no monetary help from a spouse or parents while he attended school, as many classmates did. A male who had won a custody battle shortly before starting classes answered that "keeping up a household" and working to support himself and his daughter financially were obstacles to getting through school. "Not having to work would have made it less stressful," he stated.

Children. Reeling (1980) found that the more children living at home, the higher the dropout rate among older female students enrolled in community college classes. All six female students had from three to five children ranging in age from 8 to 38. Four male students had one or two children whose ages ranged from 13 to 42, while two had no children. Each of these older students shifted priorities from job and family responsibilities toward gaining new skills and knowledge for future careers. All but two of the students had children older than 13, and their jobs were not the central focus of their lives at the time they attended community college. The oldest male nursing graduate said his daughter, a licensed RN, encouraged him to complete his degree.

Nevertheless, two described the guilt they felt for time away from their children. "The amount of time for clinics and classes made it hard on my husband, five kids, and my aging parent whom I caretake, but they supported what I did, totally," said a female nursing student. One male nursing graduate said, "Having a child makes it more difficult. School took away [time] from my 14-year-old."

Gender. Several students perceived gender discrimination as an impediment to males in the nursing program. Both male and female nursing students commented that men face subtle and obtuse discrimination in the nursing program. Males comprise about 10% of the nursing student population at Santa Fe Community College, and females predominate the faculty. "Instructors are very tough on males," a respondent said. He added that male nurses at a local hospital congratulated him as "lucky" and "one of the few" when he finished the course. "We kept losing males," he said. While others also expressed concern about gender discrimination as a barrier to men in the nursing program, one man added, "You're always going to get an attitude somewhere."

Summary

This chapter contains the results of the analyses of the seven research hypotheses. Age and gender each made a difference in degrees awarded. Gender and race when combined made a significant difference in timelines for graduation. There was no difference between traditional- and nontraditional-age students in GPA scores; however, GPA scores were different by race and gender.

The chapter also contained summaries of information gleaned from interviews with 12 of the nontraditional-age students in the study group. The interviews revealed several factors that affected degree choice, length of time to graduation, and GPA. These factors included initial fear of success, job responsibilities, financial concerns, and children. Conclusions, implications, and recommendations follow in Chapter 5.

CHAPTER 5
CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of the study was to compare degrees awarded, length of time to graduation, and grade point average (GPA) for traditional and nontraditional-age students in a community college. This final chapter includes the study's conclusions, implications, and recommendations for further study.

Conclusions

Question 1: Is there a difference in degree by age, race, or gender?

Ho: There is no difference in degree by age, race, or gender.

Conclusions. This null hypothesis was rejected. The results of the statistical analysis revealed that there was a significant difference in degree selection by age. More than two-thirds of the nontraditional-age students selected career or terminal degrees. There was no difference in degree selection by race for either age group. The majority of traditional-age female students selected terminal degrees that lead to careers while the majority of traditional-age male students received AA degrees that lead to continuing in a four-year institution.

Question 2: Is there a difference in time to complete the degree by age, race, or gender?

Ho: There is no difference in time to complete the degree by age, race, or gender.

Conclusions. This null hypothesis was rejected. The results of the statistical analysis revealed that there was no difference in time to complete by degree, age, or race. Gender was identified as statistically significant, but because a significant interaction was found when gender and race were combined, these results were not discussed.

Question 3: Is there a difference in time to complete by degree?

Ho: There is no difference in time to complete by degree.

Conclusions. This null hypothesis was accepted. Statistical analysis results revealed that degrees made no difference to the length of time to completion.

Question 4: Is there an interaction between degree, age, race, and gender in determining time to completion?

Ho: There is no interaction between degree, age, race, and gender in determining time to completion.

Conclusions. This null hypothesis was rejected. When gender was combined with race, there was a significant difference in length of time to complete. The *t*-test results revealed that black females completed their degrees faster than any other group--in half the time of black males and one-third the time of white female graduates. Prior research reported that blacks took longer to graduate than whites (Clarkson & Roscoe, 1994). However, in this study, only black male students took longer to graduate than all other students.

Question 5: Is there a difference in GPA at graduation by age, race, or gender?

Ho: There is no difference in GPA at graduation by age, race, or gender.

Conclusions. This null hypothesis was accepted. There was no difference in GPA by degree or age. Race and gender, however, each made a statistically significant difference to the final GPA. Females had a higher GPA than males, and white students had higher GPAs than black students.

Question 6: Is there a difference in GPA by degree?

Ho: There is no difference in GPA by degree?

Conclusion. The GPA by degree was not statistically significant.

Question 7: Is there an interaction between degree, age, race, and gender in determining GPA?

Ho: There is no interaction between degree, age, race, and gender in determining GPA.

Conclusion. This null hypothesis was accepted. The results of the statistical analysis revealed no interaction among any of the variables in determining GPA.

To review, degree selection was significantly different for each age group. Gender was significantly different only within the traditional-age group; length of time to complete the degree was significantly different when race and gender were combined; and GPA was the same for both age groups but different for gender and race groups.

Qualitative Results

The 12 older graduates interviewed for this study could be described as persistent. They said they felt determined to get their degrees, most often as a step toward stable and rewarding careers. They described several factors that they felt influenced their degree paths, speed of completion, and GPAs. These factors included fear of failure, financial concerns, and family and work responsibilities.

Fear of Failure

Interviews with the older students in this study reinforced the findings of Steltenpohl and Shipton (1986) who reported,

> Adult students generally experience feelings of inadequacy and marginality upon entry or reentry to college, feelings that are counter-productive to academic success. New adult students lack confidence in their ability to study and learn. They are strangers in this new world. They are marginal. (p. 638)

Each graduate reported initial fear of competition with younger students after many years away from formal education.

Financial Concerns

Limitations on receiving financial aid eliminated several older students from eligibility. Since these students were required to work while they attended college, their degree-completion progress was slowed. Criteria precluded part-time students and those who already held bachelor's degrees from receiving financial aid, and older students often fall into one or both of those categories.

Family and Work Responsibilities

Bean and Metzner (1985) concluded that age combined with job and family responsibilities significantly related to persistence of nontraditional-age students. Reeling (1980) found that the more children living at home, the higher the dropout rate among older female students enrolled in community college classes. Several respondents in this study described how the intensity of their programs placed burdens on their families. Some older students shifted their priorities from job and family responsibilities toward gaining new skills and knowledge for future careers. In many instances, they could do so because their children were older and their jobs were not the central focus of their lives at the time they attended community college.

Researchers have cited the number of hours on the job as a factor significantly relating to persistence. Lenning et al. (1980) found part-time students less likely to persist. Nine of the 12 graduates interviewed in this study worked part time while completing their college course work, and two worked full time. One of the graduates said that although he worked full time, he would have preferred attending more class hours to finish his 90-hour air conditioning repair program sooner. The college scheduled so few credit hours per semester that it took seven years to attain the certificate.

Because this study concerned only students who graduated, it did not ascertain how or whether hours of work might have affected students who did not complete their degrees as compared to those who did.

Implications

The purpose of this study was to compare degrees awarded, length of time to graduation, and grade point average (GPA) for traditional-age and nontraditional-age students in a community college. This study explored the learning patterns of the "Baby Boom" cohorts who graduated from a community college by examining past research on the possible aspects that may influence degree completion. These included persistence, community college students, degrees, length of time for degree completion, minority students in community colleges, GPA, gender, adult learning theories, and family and job responsibilities.

The "Baby Boom" generation has the highest level of education of any prior generation. A significant correlation has been identified between amount of education and desire for further education. The members of this generation need continuing education as they face deskilling and the need to change jobs.

As the best-educated cohort generation in American history, the "Baby Boomers" approach midlife with increased work life expectancy and almost-certain lengthening life span. However, even in the face of such demographic shifts, community colleges seem to prepare for a future that is already in the past.

In the course of this study, the researcher encountered not only a paucity of research on older community college students but also a near-vacuum of institutional data on that issue. As a most obvious example, neither the community college nor the Florida State Board of Community Colleges that monitors 28 public colleges track students by age. As Terenzini and Pascarella (1991) pointed out, "Many data elements are not routinely collected for community college students and may not be relevant for many adults and part-time students as they are for traditionally aged full-time students" (p. 91).

In this study, most nontraditional-age students were found to be directed toward career outcomes for their education. This study confirms Aslanian and Brickell's (1988) findings that the purpose for adult learning is to acquire occupational skills. This could explain the interview respondents' persistence to degree completion.

The finding that the college financial aid policy precludes part-time attendance and attendance of B.A. holders reveals a bias against students who are increasing their work skills while supporting themselves or a family. With downsizing and technical changes outdating prior-day expertise, today's new knowledge needs to be available to students of all ages, races, and gender.

A comprehensive, integrated approach would create an educational environment responsive to the diverse characteristics, conditions, and needs of adults (Schlossberg et al., 1989). This can be done by researching the needs of this rapidly growing community college population. One outcome might be to redirect curriculum to more intense, short-term career-preparation outcomes. Situations respresented by the example of the air conditioning repair course taking seven years because of lack of course offering need to be reexamined. Certainly, distance education will present a viable option for people who need to learn a job skill quickly. Computer-aided learning needs to be available immediately, especially for those who have not grown up with a computer as a familiar household feature. This generation of learners, the largest in the history of the United States, needs attention now.

The implications from this study are that a new paradigm needs to be found for describing community college students. Future research needs to identify what should be taught in the community colleges to update students' career skills now. The degree selection, length of time to graduation, and GPA of these students are not the point. According to the interview responses in this study, community colleges are not assisting working adults to access information they need to maintain or improve their economic stability. Community colleges must identify the needs of older students and plan programs that will accommodate them in a timely manner.

Recommendations for Further Study

The finding of this study that black males required more time to finish than any other group, no matter what degree, needs further exploration. According to research, attrition rates are much higher for black students, and fewer black males complete their degrees than any other group (Tracey & Sedlacek, 1987). In this study, black males required more time to finish their degrees than any of the other subgroups, while black females completed their degrees in the shortest time period. One explanation for the black female speed of degree completion may be the high level of support for black women within their own cultural group that helps them succeed with greater assurance than any other subgroup (Barnes, 1980; Bowman & Cleopatra, 1985; Orenstein, 1994). Reasons for the greater speed with which black female students complete their degrees and for why black male students take longer to complete their degrees need to be found. Correspondingly, remedies for increasing success levels for black male students in higher-education settings need to be put into place.

Consideration needs to be given to changing the policies relating to the eligibility of nontraditional-age students for financial aid. Existing policies, limited to those who attend college full time and those with no prior degree, place an undue burden on students with families to support who need to update their information base to maintain or change job status.

In 1994, Florida community college administrators began to discuss the "high school bubble," an expected surge in students graduating from public high schools and have urged funding to prepare for this phenomenon. Moreover, a recent commitment to shorten the time of degree completion was presented to the Florida state legislature for its consideration. These potential state policies serve only the high school traditional-age students.

As the general population has aged, so has the postsecondary student population. Evidence points to continued expansion of an older postsecondary student population with academic needs and goals that can differ greatly from those of students who enter college soon after high school graduation. As Terenzini and Pascarella (1991) advised, "If researchers are to help prepare our higher education system for these [demographic] changes, much more must be learned about how the collegiate experience, academic and nonacademic, differs for older versus traditional-aged students" (p. 88).

If community colleges want to treat all groups equitably, they must be amenable to the needs of all students. It is recommended, therefore, that the state conduct a study of the educational and career retooling needs of an even faster-growing older population, most of whom need to earn a living while they acquire additional knowledge to stay current in an ever-changing information base.

APPENDIX
QUESTIONS FOR THE INTERVIEW

1. What degree did you take?

2. Why did you take that degree?

3. How long did it take you to complete the degree?

4. Can you describe other factors influencing your choice of degree, length of time to graduation, and GPA?

5. How many children do you have?

6. How many hours were you working?

7. How many credit hours per semester have you been taking at the community college?

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BIOGRAPHICAL SKETCH

Constance K. Thurston has attended college on and off since leaving Smith College to marry and raise a family of four daughters in Washington, D.C., and Connecticut. In Connecticut, she began the first senior citizen program in southeastern Connecticut, was the public relations director for a youth orchestra, secretary of the Groton Planning Commission, sat on two governor's task forces, and ran for state legislature. She returned to complete her B.A. from Connecticut College just a year before her second daughter graduated from the same institution. She moved to Denver where she received her MPA from the University of Colorado at Denver (now known as Colorado University Denver) in 1980.

She spent the next eight years in San Diego, teaching in five community college adult learning centers and writing a monthly column for a news magazine. She also was a member of the Community College Advisory Council of Pacific Beach and sat on the board of the Pacific Beach Planning Committee.

Ms. Thurston moved to Gainesville to be near her oldest daughter and her family. In 1989, she began her doctoral studies, serving as a graduate assistant to the dean of the University of Florida Division of Continuing Education. She helped the Dean begin a community education program for the University of Florida and a seminar series modeled after the Cleveland City Club Forum called Leading Edge Seminars. She subsequently designed, organized, coordinated, and supervised a community education site for a joint program sponsored by Santa Fe Community College and the Alachua County School Board. She is currently the organizer and coordinator of Elder Network Services, a member of SPICE, vice president of Public Policy for AAUW, a member of the League of Women Voters, and the oldest degree-seeking student at the University of Florida.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

James Wattenbarger

James L. Wattenbarger, Chairperson
Distinguished Service Professor of
Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

David Honeyman

David S. Honeyman, Cochairperson
Associate Professor of Educational
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

M. David Miller

M. David Miller
Associate Professor of Foundations
of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

James W Hensel

James W. Hensel
Professor of Educational
Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

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Professor of Anthropology

This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Education.

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